

Application No.10/737,132
Amendment dated October 9, 2006
Reply to Office action of July 20, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 and 2 (Canceled).

Claim 3 (currently amended): A ~~mathematical training system according to Claim 2~~
including for teaching a student to operate an abacus for performing a mathematical calculation,
comprising,

an abacus having a plurality of counter beads slidably mounted on a plurality of guide
bars, said counter beads being operative slidably relative to said guide bars for carrying out said
mathematical calculation,

motion sensors located below said counter beads and operative for detecting movements
of said counter beads and generating a series of electrical signals representing movement
sequence of said counter beads in carrying out said mathematical calculation,

electrical control and conversion circuit means connected to said motion sensors and in
combination with a microprocessor operative to convert said series of electrical signals to digital
data signals,

a computing device computer including having a display monitor and adapted to receive
and process said digital data signals for displaying a pictorial representation an image of said

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abacus and sequential movements of said counter beads during operation of said abacus for said mathematical calculation.

Claim 4 (currently amended) A ~~mathematical~~ training system according to Claim 3 wherein said motion sensors include a light emitting portion and a light receiving portion situated opposite to one another with an air gap located therebetween, and baffle ~~members~~ panels are mounted on said counter beads and extending downwards from each one of said counter ~~bead~~ beads to said air gap of an associated sensor located directly below said each one of said counter ~~bead~~ beads.

Claim 5 (currently amended) A ~~mathematical~~ training system according to Claim 4 wherein said baffle panels ~~is~~ are normally located in said air gap of ~~each sensor~~ said sensors for blocking the light from said emitting portion of said ~~sensor~~ sensors from impinging on said light receiving portion, and said baffle panels sequentially blocking and unblocking said light when said counter beads are operated slidably up and down said guide bars during the mathematical calculation whereby said electrical signals are generated by said sensors in cooperation with said conversion circuit means and said microprocessor.

Claim 6 (currently amended) A ~~mathematical~~ training system according to Claim 5

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wherein said sensors, said conversion circuit means and said microprocessor are mounted on a components circuit board located below said abacus, and including an output port is located on said components circuit board and adapted for electrical connection with said computing device computer for displaying a pictorial representation of the operation of the said image of said abacus in a monitor said display monitor showing said sequential movements of said counter beads for making said mathematical calculation.

Claim 7 (currently amended) A ~~mathematical~~ training system according to Claim 6 including recording means in said computer adapted for recording said digital data signals whereby the operation of the abacus by a the student for ~~solving an mathematical assignment~~ carrying out said mathematical calculation is retrievable by an instructor to review the operation of the abacus step by step by the student ~~for solving the mathematical assignment.~~

Claim 8 (currently amended) A ~~mathematical~~ training system according to Claim 6 wherein said ~~monitor display~~ monitor simultaneously shows pictorial representation of both images of the operation of the an instructor's abacus and ~~the operation~~ the student's abacus for the student to operate the student's abacus by following the operation of the instructor's abacus by the instructor for carrying out said mathematical calculation in a correct sequence of operating said counter beads.